Project Code and Title

B.02.01.01.02 Lehman Injury Research Center

Project Objective

Reductions in deaths, disabilities, and costs of motor vehicle crash injuries by improving the prevention, treatment and rehabilitation of injuries through multi-disciplinary research on biomechanics, crashworthiness and automotive safety.

Background

Under a mandate from Congress, the NHTSA has created a team of medical, biomechanical engineering and crash injury statistics researchers to advance the scientific understanding of crash injuries and identify potential countermeasures to mitigate injuries and their consequences.

Problem Definition

We can begin to appreciate the complexities of crash injuries by considering the following factors:

1. The human body: 206 bones of differing size, function, and strength; skeletal muscles, ligaments, vital organs, and several major systems: the central nervous system, and the circulatory, digestive and reproductive systems. This complexity is multiplied by the various age, gender, and size conditions of crash injured people.

2. Human injuries. The scope, nature and severity of crash injuries: lacerations, fractures and crush of bones, muscles, organs, nerves, membranes and other body tissues.

3. Crash conditions. Crash forces vary in magnitude, direction, complexity, and time duration based on such factors as restraint use, vehicle(s) and other crash characteristics.

4. Treatment of crash injuries: How the medical system responds to crash injuries; decisions in triage, transport, treatment and rehabilitation also can make the difference between life and a life of disability.

Research Approach

There is a need to study real world crashes in detail to understand injuries, injury mechanisms, injury consequences, and the potential for improvements in the prevention, treatment, and rehabilitation of crash injuries. This project collects, stores and analyzes crash injury data on about 50 people who were restrained and seriously injured in frontal crashes each year.

Potential Impact/Application

All NHTSA programs potentially benefit from the review of these detailed case studies.

Key Milestones

- Final Report May 1997

RESOURCE REQUIREMENTS	FY 95	FY 96	FY	FY	FY
Contract Money ($K)	400	310			

Project Manager(s)

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Completion Date

May 1997

Keywords: Biomechanics, Triage, Crash Injuries, Trauma, Motor Vehicle, Automotive Safety, Crashworthiness, Research and Development

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Project Tasks

Task	Title and Description
Task 1	Case Studies
Task 2	CrashCARE Database Development

Task	Start Date	Projected Completion Date	Status/Responsibility
1	6/96	5/97	In progress.
2	6/96	5/97	In progress.

Supporting Contracts

Task	Contract Number	COTR (phone)	Contracting Officer (phone)	Total Contract Cost ($K)
	DTNH22-91-Z-07279	202 366 4862	J. Flemming 202 366 9564	9,228